

APSC 1001

Thunkable App Development Environment – (In)Activity Alert

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Photo: Kartik Bulusu

Build a (In)Activity Alert App - Motivation

Bill Hammack (i.e. The Engineer Guy):

How a Smartphone Knows Up from Down (accelerometer)



Source:

<https://youtu.be/KZVgKu6v808>

How to stay active during the COVID-19 quarantine?

Take short active breaks during the day.

- Short bouts of physical activity add up to the weekly recommendations
- Dancing, playing with children, and performing domestic chores such as cleaning and gardening are other means to stay active at home.

Stand up.

- Reduce your sedentary time by standing up whenever possible.
- Ideally, aim to interrupt sitting and reclining time every 30 minutes.

Walk.

- Even in small spaces, walking around or walking on the spot, can help you remain active.
- If you have a call, stand or walk around your home while you speak, instead of sitting down.
- If you decide to go outside to walk or exercise, be sure to maintain at least a 1-meter distance from other people.

Source:

<https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/publications-and-technical-guidance/noncommunicable-diseases/stay-physically-active-during-self-quarantine>

Build a (In)Activity Alert App - Goals

Goals:

1. Create a UI with
 - i. Timer
 - ii. Text_to_Speech
 - iii. Image
 - iv. Start Button
 - v. Stop Button
 - vi. Labels
2. Create CODE BLOCKS for
 - i. START Button
 - ii. Accelerometer
 - iii. Timer
 - iv. Stop Button
 - v. Label, Text and Speech

The screenshot shows the Thunkable web interface for building an app. The interface is annotated with red handwritten notes and circles. At the top left, a red arrow points to the 'WORKFLOWS' menu. The 'Tutorials' section on the left is circled, with a note: 'Tutorials are great! Use this to minimize.' The 'Design' tab is active, showing a 'myFirstProject' workspace. The 'Add Components' panel is open, listing various UI elements like Button, Label, Text Input, List Viewer, Web Viewer, Switch, Slider, and Alert. The 'User Interface' section is circled. The 'Files' section is also visible. The 'Live Test' button is circled, with a note: 'OPTIONAL STEPS'. The 'Preview' button is also visible. The central canvas shows a mobile phone screen with a yellow background and a white rectangle labeled 'Screen1'. The right-hand panel shows the properties for 'Screen1', including BackgroundColor, Background Picture, Background Picture Resize Mode, Vertical Alignment, Horizontal Alignment, Scrollable, Margin, and Padding. Handwritten notes on the canvas include: 'STEP (1) DESIGN your user interface', 'STEP (2) Create your code BLOCKS', 'STEP (3) LIVE TEST', and 'STEP (4) Be Awesome!'. A note at the bottom of the canvas says: 'Think of this as your mobile phone ... sort of!'. A small drawing of a person is also present.

Step 1: Create the User Interface (UI)

1. Create 4 Rows
2. Each row has an
 1. Image
 2. Button or
 3. Labels
3. All rows are made visible

Green
Buff
Color:
R = 200
G = 177
B = 139
A = 100

Green Blue
Color:
R = 0
G = 64
B = 101, A = 100

Step 2: Create CODE BLOCKS



- Design
- Blocks
- Control
- Logic
- Math
- Text
- Lists
- Color
- Device
- Objects
- Variables
- Functions
- Timer1
- Text_To_Speech1
- Accelerometer_Activity
- Label1
- Image1
- Row3
- Button_START
- Row2
- Label5
- Label4_TimerCount
- Label3
- Row5
- Button_STOP
- Row1
- Screen1
- Any Component

Start Button Code Blocks

```
when Screen1 Opens
do
  from Accelerometer_Activity set Enabled to true
  from Accelerometer_Activity set Sensitivity to high

when Button_START Click
do
  in Timer1 call Start
```

Timer Code Blocks

```
when Timer1 Fires
do
  from Timer1 set Enabled to true
  from Label4_TimerCount set Text to from Label4_TimerCount get Text + 1
  if from Label4_TimerCount get Text = 20
  do
    from Image1 set Picture to noun_stretching_29956.png
    from Label4_TimerCount set Text to 0
    from Timer1 set Enabled to false
    in Text_To_Speech1 call Speak
    text "Take a break and stretch for about 5 minutes."
    wait 5 seconds
    in Text_To_Speech1 call Speak
    text "Inactive cycle ended. Resume your work."
    from Image1 set Picture to noun_Meeting_83144.png
    from Timer1 set Enabled to true
```

Accelerometer Code Blocks

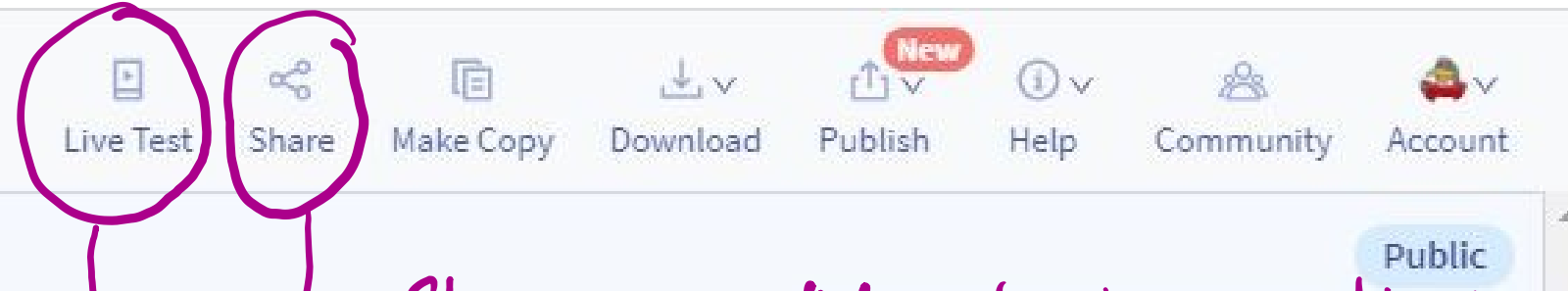
```
when Accelerometer_Activity Shaking
do
  from Image1 set Picture to noun_stretching_29956.png
  from Label4_TimerCount set Text to 0
  from Timer1 set Enabled to false
  in Text_To_Speech1 call Speak
  text "Good job breaking the inactive cycle. Resume you..."
  from Image1 set Picture to noun_Meeting_83144.png
  wait 5 seconds
```

Stop Button Code Blocks

```
when Button_STOP Click
do
  from Image1 set Picture to noun_Meeting_83144.png
  from Timer1 set Enabled to false
  in Text_To_Speech1 call Speak
  text "Click START to reset cycle"
  from Label4_TimerCount set Text to 0
  from Accelerometer_Activity set Enabled to false
```



Step 3: Live Test



→ Share: 1. Will help in creating a shareable weblink that you can use to submit your assignment
2. And share it with anyone who is awesome.

→ Live Test:
1. Will give you a clear and clean working version of your APP and

2. Will test the same version on Thinkable Live installed on your mobile phone.